Identification Character	Numeric Value	Identification Character	Numeric Value
(space)	0	H	18
0	1	I	19
1	2	J	20
2	3	K	21
3	4	L	22
4	5	M	23
5	6	N	24
6	7	O	25
7	8	P	26
8	9	Q	27
9	10	R	28
A	11	S	29
B	12	T	30
C	13	U	31
D	14	V	32
E	15	W	33
F	16	X	34
G	17	Y	35
		Z	36

The value associated with each character position will then form a base 37 number which is 8 digits long. The 8-digit number is encoded into the Tag by converting it from base 37 to its base 2 equivalent.

1.5 Number of Axles: This field indicates the number of axles on a tractor. To encode the Number of Axles into the Tag, the decimal value from 0 to 7 is converted to base 2. A binary "0" (zero) value indicates the Number of Axles is unknown.

1.6 Tare Weight: This field indicates the tractor's weight, without fuel, in hundreds of kilograms. To encode the Tare Weight into the Tag, the decimal value from 0 to 255 must be converted to its equivalent base 2 value. A binary "0" (zero) value indicates that the Tare Weight is unknown.

1.7 Wheelbase: The Wheel Base is measured from the center of the steering axle to the mid-point between the rear axles, see FIGURE 10. To encode the Wheelbase into the Tag, reduce the decimal dimension from 26 to 64 decimeters by 25 decimeters then convert the result to its base 2 equivalent. A binary "0" (zero) indicates the Wheelbase is unknown or is not utilized.

1.8 5th Wheel Off-Set: The 5th Wheel Off-Set is measured from the center of the kingpin to the mid-point between the rear axles (or the center of the rear axle for single axle configurations), see FIGURE 10. To encode the 5th Wheel Off-Set into the Tag, use the Table below to find the value, then convert the result to its base 2 equivalent. A binary zero ("0") shall be used to indicate that the 5th Wheel Off-Set is unknown or is not utilized.

5th Wheel Offset Code Values

Code	Off-Set Range
0	Unknown
1	> 0 to 1 Decimeter
2	> 1 to 2 Decimeter
3	> 2 to 3 Decimeter
4	> 3 to 4 Decimeter
5	> 4 to 5 Decimeter
6	> 5 to 6 Decimeter
7	> 6 to 7 Decimeter
8	> 7 Decimeter

1.9 Tare Weight on Steering Axle: To encode the Tare Weight on the Steering Axle into the Tag, the metric value from 20 to 50 hundred kilograms must first be reduced by 19 hundred kilograms then converted to its base 2 equivalent. A binary zero ("0") shall be used to indicate that the Tare Weight on Steering Axle is unknown or is not utilized.

1.10 Drive Axle Spread: The Drive Axle Spread is measured from the center of the first rear axle to the center of the last rear axle, see FIGURE 10. To encode the Drive Axle Spread into the Tag, the decimal value from 0 to 27 decimeters must be converted to its base 2 equivalent. A decimal value of 27 shall be used only to indicate a tractor with a single rear axle.

A binary zero ("0") shall be used to indicate that the Drive Axle Spread is unknown or is not utilized.

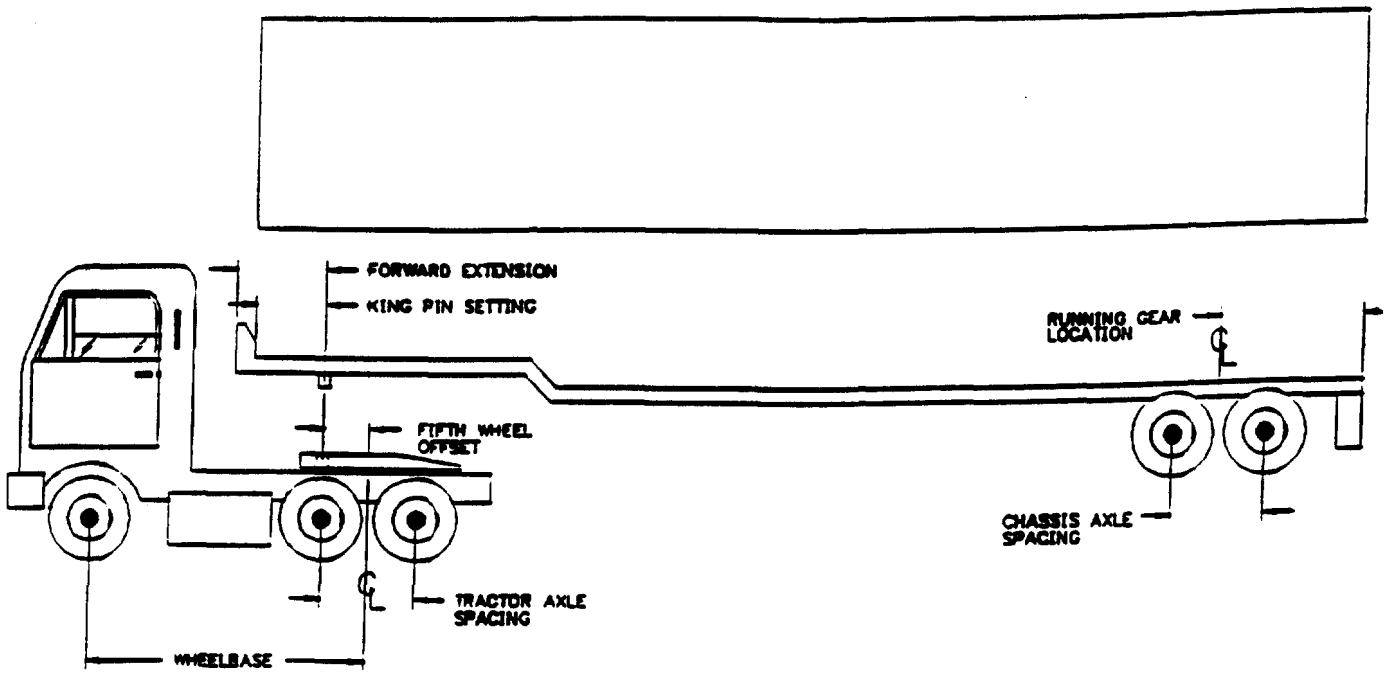

ILLUSTRATION OF STANDARD NOMENCLATURE
FIGURE 10

May 16, 1990

APPENDIX B

A Description of the Tag Data
Format for the Dolly

1. Bits Available for General Use

Fields specified by the Standard are listed in Table A; General Use fields are indicated in bold type. A description of each General Use field is presented in the paragraphs following Table A.

Table A: Data Field Descriptions for the Dolly Tag

Entry	Bits Required	Tag Data Sequence	Minimum Value	Maximum Value	Units
Equipment Group Code	**5**	**0-4**	**0**	**31**	**Type Code**
Tag Type	**2**	**5-6**	**1**	**4**	**Type Code**
SCAC Code	**19**	**7-25**	**A___**	**ZZZZ**	**Alpha**
Identification Number	**42**	**26-59,64-71**	**0___**	**ZZZZZZZZ**	**Alphanumeric**
First Check Sum	2	60-61			
Reserved Frame Marker	2	62-63			
Number of Axles	**3**	**72-74**	**0**	**7**	**Axles**
Tare Weight	**6**	**75-80**	**0**	**63**	**100's of Kg.**
Dolly Type Code	**7**	**81-87**	**0**	**127**	**Type Code**
Spare	**7**	**87-93**	**Available for Owner's Use**		
Reserved	**12**	**94-105**	**Reserved**		
Security	12	106-117	Reserved for Security or limited Owner's use		
Data Format Code	6	118-123			
Second Check Sum	2	124-125			
Frame Marker	2	126-127			

The fields are arranged in a hierarchical fashion in order to expedite translation and processing by the data processor. It is intended that the data processor will first look at the Data Format Code to determine if the Tag should be decoded or ignored. For example, in some cases the data processor will wish to ignore all Tags except those specified as highway (ATA Standard) or marine intermodal (ISO Standard) Tags.

Once the Data Format Code has been processed, then the data processor will look to the Tag Type to determine the configuration, capabilities, and memory capacity of the Tag. (Note: This field is provided for future use to accommodate new types of Tags which may have different memory or communication capabilities).

Next, the data processor will examine the Equipment Group Code to determine if the tagged equipment is relevant. For example, the processor may ignore, or process differently, non-revenue equipment than it would trailers or dollies.

The order in which the remaining fields are processed will be dictated by the particular application.

1.1 Equipment Group Code: This is a numeric field having a value from 0 to 31 that indicates the general type of equipment. A proposed table of values for this field is indicated below. Note that only major categories of equipment types are indicated in this field and other fields are allotted to indicate further details. The Equipment Group Code for a dolly is decimal 20 (binary 10100).

Table B: Data Values for the Equipment Group Code

Value	Description	Value	Description
0	Other	16	Reserved
1	Reserved	17	Tractor (Power Only)
2	Reserved	18	Truck (Power and Cargo Bed)
3	Reserved	19	Railcar
4	Reserved	20	Dolly
5	Locomotive	21	Trailer
6	End-of-Train Device	22	Reserved
7	Reserved	23	Reserved
8	Reserved	24	Reserved
9	Reserved	25	Reserved
10	Intermodal Container	26	Reserved
11	Reserved	27	Chassis
12	Reserved	28	Reserved
13	Reserved	29	Reserved
14	Non-Revenue	30	Reserved
15	Reserved	31	Reserved

1.2 Tag Type: The Tag Type indicates the configuration, capability, and memory size of the Tag. At the present time there is only one Tag Type defined, as indicated in Table C.

Table C: Data Values for the Tag Type Field

Decimal Value	Description
1	Reserved
2	Tag described by the AAR Standard (Current Version), the ISO Draft International Standard DIS 10374, and the ATA Proposed Standard
3	Reserved
4	Reserved

To code the Tag Type value into the Tag, the decimal value is reduced by one and converted to its base 2 equivalent.

1.3 SCAC Code: The SCAC (Owner's) Code is composed of four letters and can be represented as C1; C2; C3; C4. To code this information in the Tag, the possible letters represented by C1 will be assigned to the following decimal values: A=0, B=1, C=2, ...Z=25. The letters C2, C3 and C4 will be assigned the following values: Blank =0, A=1, B=2, ...Z=26. This code assignment allows for an SCAC Code of less than four characters, with the actual characters left justified, and the remainder of the field padded with blanks.

Conversion from alpha to numeric would involve the following:

1. Determine the numeric equivalent of characters C1 through C4. This will result in four numeric values; N1 through N4.

2. Convert N1 through N4 into one numeric value by using the formula:

   $$Value = (N1x27^3) + (N2x27^2) + (N3x27) + N4$$

The base 2 equivalent of the decimal number "Value" is stored in the Tag's SCAC Code field.

Conversion from a base 2 tag format back to the four SCAC letters would involve the following, where "Value" is the decimal equivalent of the base 2 value in the SCAC Code field.

1. $N1 = Value/27^3$ (integer - drop fractions)

2. $N2 = (Value - (N1x27^3))/27^2$ (integer)

3. $N3 = (Value - ((N1x27^3) + (N2x27^2)))/27$ (integer)

4. $N4 = Value - ((N1x27^3) + (N2x27^2) + (N3x27))$

5. Use the letter-to-number assignments referred to above to convert N1 through N4 from a numeric value to its letter equivalent.

1.4 Identification Number: The Identification Number consists of eight alphanumeric characters. Each character shall be assigned a numeric value as indicated below:

Identification Character	Numeric Value	Identification Character	Numeric Value
(space)	0	H	18
0	1	I	19
1	2	J	20
2	3	K	21
3	4	L	22
4	5	M	23
5	6	N	24
6	7	O	25
7	8	P	26
8	9	Q	27
9	10	R	28
A	11	S	29
B	12	T	30
C	13	U	31
D	14	V	32
E	15	W	33
F	16	X	34
G	17	Y	35
		Z	36

The value associated with each character position will then form a base 37 number which is 8 digits long. The 8-digit number is encoded into the Tag by converting it from base 37 to its base 2 equivalent.

1.5 Number of Axles: This field indicates the number of axles on a dolly. To encode the Number of Axles into the Tag, the decimal value from 1 to 7 is converted to base 2. A "0" (zero) value indicates the Number of Axles is unknown.

1.6 Tare Weight: This field indicates the dolly Tare Weight in hundreds of kilograms. To encode the Tare Weight into the Tag, the decimal value from 0 to 63 must be converted to its equivalent base 2 value. A "0" (zero) value indicates that the Tare Weight is unknown.

1.7 Dolly Type Code: The Dolly Type Code is provided to enable determination of the class or type of dolly. To encode the Dolly Type Code into the Tag, the decimal value from 0 to 127 must be converted to the equivalent base 2 value. A definition of the Dolly type Code values will be developed in the future. The decimal value "0" (zero) represents no type code provided.

APPENDIX C

A Description of the Tag Data
Format for the Trailer

1. Bits Available for General Use

Fields specified by the Standard are listed in Table A; General Use fields are indicated in bold type. A description of each General Use field is presented in the paragraphs following Table A.

Table A: Data Field Descriptions for the Trailer Tag

Entry	Bits Required	Tag Data Sequence	Minimum Value	Maximum Value	Units
Equipment Group Code	**5**	**0-4**	**0**	**31**	**Type Code**
Tag Type	**2**	**5-6**	**1**	**4**	**Type Code**
SCAC Code	**19**	**7-25**	**A___**	**ZZZZ**	**Alpha**
Identification Number	**42**	**26-59,64-71**	**0_____**	**ZZZZZZZZ**	**Alphanumeric**
First Check Sum	2	60-61			
Reserved Frame Marker	2	62-63			
Length	**11**	**72-82**	**0**	**2047**	**Centimeters**
Width Code	**2**	**83-84**	**0**	**3**	**Width Code**
Tandem Width Code	**2**	**85-86**	**0**	**3**	**Width Code**
Trailer Type Code	**4**	**87-90**	**0**	**15**	**Type Code**
Forward Extension	**8**	**91-98**	**30**	**284**	**Centimeters**
Tare Weight	**7**	**99-105**	**15**	**141**	**100's** or **Kg.**
Height/Security	12	106-117	Reserved for Security or Height		
Data Format Code	6	118-123			
Second Check Sum	2	124-125			
Frame Marker	2	126-127			

The fields are arranged in a hierarchical fashion in order to expedite translation and processing by the data processor. It is intended that the data processor will first look at the Data Format Code to determine if the Tag should be decoded or ignored. For example, in some cases the data processor will wish to ignore all Tags except those specified as highway (ATA Standard) or marine intermodal (ISO Standard) Tags.

Once the Data Format Code has been processed, then the data processor will look to the Tag Type to determine the configuration, capabilities, and memory capacity of the Tag. (Note: This field is provided for future use to accommodate new types of Tags which may have different memory or communication capabilities).

Next, the data processor will examine the Equipment Group Code to determine if the tagged equipment is relevant. For example, the processor may ignore, or process differently, non-revenue equipment than it would trailers or dollies.

The order in which the remaining fields are processed will be dictated by the particular application.

1.1 Equipment Group Code: This is a numeric field having a value from 0 to 31 that indicates the general type of equipment. A proposed table of values for this field is indicated below. Note that only major categories of equipment types are indicated in this field and other fields are allotted to indicate further details. The Equipment Group Code for a trailer is a decimal 21 (binary 10101).

Table B: Data Values for the Equipment Group Code

Value	Description	Value	Description
0	Other	16	Reserved
1	Reserved	17	Tractor (Power Only)
2	Reserved	18	Truck (Power and Cargo Bed)
3	Reserved	19	Railcar
4	Reserved	20	Dolly
5	Locomotive	21	Trailer
6	End-of-Train Device	22	Reserved
7	Reserved	23	Reserved
8	Reserved	24	Reserved
9	Reserved	25	Reserved
10	Intermodal Container	26	Reserved
11	Reserved	27	Chassis
12	Reserved	28	Reserved
13	Reserved	29	Reserved
14	Non-Revenue	30	Reserved
15	Reserved	31	Reserved

1.2 Tag Type: The Tag Type indicates the configuration, capability, and memory size of the Tag. At the present time there is only one Tag Type defined, as indicated in Table C.

Table C: Data Values for the Tag Type Field

Decimal Value	Description
1	Reserved
2	Tag described by the AAR Standard (Current Version), the ISO Draft International Standard DIS 10374, and the ATA Proposed Standard
3	Reserved
4	Reserved

To code the Tag Type value into the Tag, the decimal value is reduced by one and converted to its base 2 equivalent.

1.3 SCAC Code: The SCAC (Owner's) Code is composed of four letters and can be represented as C1; C2; C3; C4. To code this information in the Tag, the possible letter represented by C1 will be assigned to the following decimal values: A=0, B=1, C=2, ...Z=25. The letters C2, C3 and C4 will be assigned the following values: Blank =0, A=1, B=2, ...Z=26. This code assignment allows for a SCAC Code of less than four characters, with the actual characters left justified, and the remainder of the field padded with blanks.

Conversion from alpha to numeric would involve the following:

1. Determine the numeric equivalent of characters C1 through C4. This will result in four numeric values; N1 through N4.

2. Convert N1 through N4 into one numeric value by using the formula:

$$\text{Value} = (N1 \times 27^3) + (N2 \times 27^2) + (N3 \times 27) + N4$$

The base 2 equivalent of the decimal number "Value" is stored in the Tag's SCAC Code field.

Conversion from a base 2 tag format back to the four SCAC letters would involve the following, where "Value" is the decimal equivalent of the base 2 value in the SCAC Code field.

1. $N1 = Value/27^3$ (integer - drop fractions)

2. $N2 = (Value - (N1x27^3))/27^2$ (integer)

3. $N3 = (Value - ((N1x27^3) + (N2x27^2)))/27$ (integer)

4. $N4 = Value - ((N1x27^3) + (N2x27^2) + (N3x27))$

5. Use the letter-to-number assignments referred to above to convert N1 through N4 from a numeric value to its letter equivalent.

1.4 Identification Number: The Identification Number consists of eight alphanumeric characters. Each character shall be assigned a numeric value as indicated below:

Identification Character	Numeric Value	Identification Character	Numeric Value
(space)	0	H	18
0	1	I	19
1	2	J	20
2	3	K	21
3	4	L	22
4	5	M	23
5	6	N	24
6	7	O	25
7	8	P	26
8	9	Q	27
9	10	R	28
A	11	S	29
B	12	T	30
C	13	U	31
D	14	V	32
E	15	W	33
F	16	X	34
G	17	Y	35
		Z	36

The value associated with each character position will then form a base 37 number which is 8 digits long. The 8-digit number is encoded into the Tag by converting it from base 37 to its base 2 equivalent.

1.5 Length: This field indicates the trailer length. The length field is equivalent to the overall (outside) length of the trailer, including forward protrusion but excluding dock bumpers. To encode the Length into the Tag, the decimal value from 0 to 2047 centimeters is converted to its equivalent base 2 value. A "0" (zero) indicates a "does not apply" or "unknown" condition.

1.6 Width Code: The trailer width is measured from the outside surfaces of the trailer. The Trailer Width Code is encoded according to the following table.

Trailer Width	Code Value
Unknown	0
96" (2.5 meters) or less	1
More than 96" (2.5 meters), but not more than 102" (2.6 meters)	2
More than 102" (2.6 meters)	3

The decimal code value from 0 to 3 associated with the Trailer Width Code is encoded into the Tag by converting the value to its corresponding base 2 number.

1.7 Tandem Width Code The Tandem Width indicates the nominal width of the trailer tandem, defined as the extreme width spanned by the outside tires of an axle. (The Tandem Width is usually 2.5 or 2.6 meters, e.g., 96 or 102 inches.) To encode the tandem width into the Tag, use the same procedure and table given for Width, above.

1.8 Trailer Type Code: To encode the Trailer Type Code into the Tag, the decimal value from 0 to 15 must be converted to the equivalent base 2 value. Table D presents a description of each Trailer Type Code value. The decimal value 15 represents no type code provided. [Rail compatible trailers are trailers capable of operation on railroads without an underlying flatcar platform.]

Table D: Data Values for the Trailer Type Code

Value	Description
0	Bulk Hopper or Tank
1	Mechanical Refrigerator-Underslung
2	General Service (non-equipped) Dry Van
3	Flat Bed (Including removable sides, platforms and expandables)
4	Open Top
5	Mechanical Refrigerator-Nose Mount
6	Rail Compatible Trailer, without Integral Rail Wheels
7	Insulated

Table D: Data Values for the Trailer Type Code (Cont'd)

8	Drop Frame (Including Wedge Frames)
9	Special Equipped Straight Floor Closed
10	Rail Compatible Trailer, with Integral Rail Wheels
11-14	Reserved
15	Unknown, Not Used

1.9 Forward Extension: The Forward Extension field indicates the distance from the center of the king-pin to the most forward protrusion on the trailer. To encode the Forward Extension into the Tag, the decimal value from 30 to 284 centimeters must be reduced by decimal 29 then converted to the equivalent base 2 value. A "0" (zero) indicates a "does not apply" condition.

1.10 Tare Weight: This field indicates the trailer Tare Weight in hundreds of kilograms. To encode the Tare Weight into the Tag, the decimal value from 15 to 141 kilograms must be reduced by 14 then converted to its equivalent base 2 value. A "0" (zero) indicates a "does not apply" condition.

1.11 Height: The Height of the trailer, from 0 to 511 centimeters, may be identified in the Security field if the user chooses not to use a security character in one or both of the six-bit fields that are included in the Security field. If the user does not wish to use security nor indicate the height, then the Security field shall be filled with binary zeros.

If the user wishes to encode Height, the trailer height shall be measured in centimeters at the rear axle and shall encompass the distance from the ground to the trailer's top surface when the trailer is in an unloaded state. The subsequent steps shall be used to encode the decimal value in centimeters into the Tag.

1. Convert the trailer height decimal value ($D_3D_2D_1D_0$) to a base 37 number (T_1T_0) as follows:

   $C = (D_3D_2D_1D_0/37)$ (Truncate Remainder to an Integer Result)

   $T_1 = C + 1$

   $T_0 = D_3D_2D_1D_0 - (CX37)$ (Truncate Remainder to an Integer Result)

2. Use the following table to convert T_1 and then T_0 into alpha-numeric characters (A_1 and A_0).

T_1 or T_0 Value	A_1 or A_0 Character	T_1 or T_0 Value	A_1 or A_0 Character
0	/	19	I
1	0	20	J
2	1	21	K
3	2	22	L
4	3	23	M
5	4	24	N
6	5	25	O
7	6	26	P
8	7	27	Q
9	8	28	R
10	9	29	S
11	A	30	T
12	B	31	U
13	C	32	V
14	D	33	W
15	E	34	X
16	F	35	Y
17	G	36	Z
18	H		

3. Using the Six-Bit ASCII table presented in Appendix G, find the decimal values associated with the A_1 character and then the A_0 character. Finally, these decimal values must then be converted to corresponding base 2 values.

May 16, 1990

APPENDIX D

A Description of the Tag Data
Format for the Chassis

Subject to revision by the Ocean and Rail industries.

1. Bits Available for General Use

Fields specified by the Standard are listed in Table A; General Use fields are indicated in bold type. A description of each General Use field is presented in the paragraphs following Table A.

Table A: Data Field Descriptions for the Chassis Tag

Entry	Bits Required	Tag Data Sequence	Minimum Value	Maximum Value	Units
Equipment Group Code	**5**	**0-4**	**0**	**31**	**Type Code**
Tag Type	**2**	**5-6**	**1**	**4**	**Type Code**
Owner's Mark (Initial)	**19**	**7-25**	**A__**	**ZZZZ**	**Alpha**
Identification Number	**20**	**26-45**	**0**	**999999**	**Numeric**
Chassis Type Code	**4**	**46-49**	**0**	**15**	**Types**
Tare Weight	***6***	***50-55***	**15**	**77**	**100's of Kg.**
First Check Sum	2	60-61			
Reserved Frame Marker	2	62-63			
Height	**7**	**56-59,64-66**	**40**	**166**	**Centimeters**
Tandem Width Code	**2**	**67-68**	**0**	**3**	**Code**
Forward Extension	**6**	**69-74**	**30**	**154**	
Kingpin Setting	**6**	**75-80**	**30**	**154**	**Centimeters**
Axle Spacing	**5**	**81-85**	**10**	**40**	**Decimeters**
Running Gear Location	**5**	**86-90**	**13**	**43**	**Decimeters**
Number of Lengths	**3**	**91-93**	**0**	**7**	**Numeric**
Minimum Length	**10**	**94-103**	**0**	**2046**	**Centimeters**
Spare	**2**	**104-105**			**Reserved**
Maximum Length/Security	12	106-117	Reserved for Maximum Length or Security		
Data Format Code	6	118-123			
Second Check Sum	2	124-125			
Frame Marker	2	126-127			

The fields are arranged in a hierarchical fashion in order to expedite translation and processing by the data processor. It is intended that the data processor will first look at the Data Format Code to determine if the Tag should be decoded or ignored. For example, in some cases the data processor will wish to ignore all Tags except those specified as highway (ATA Standard) or marine intermodal (ISO Standard) Tags.

Once the Data Format Code has been processed, then the data processor will look to the Tag Type to determine the configuration, capabilities, and memory capacity of the Tag. (Note: This field is provided for future use to accommodate new types of Tags which may have different memory or communication capabilities).

Next, the data processor will examine the Equipment Group Code to determine if the tagged equipment is relevant. For example, the processor may ignore, or process differently, non-revenue equipment than it would trailers or dollies.

The order in which the remaining fields are processed will be dictated by the particular application.

1.1 Equipment Group Code: This is a numeric field having a value from 0 to 31 that indicates the general type of equipment. A proposed table of values for this field is indicated below. Note that only major categories of equipment types are indicated in this field and other fields are allotted to indicate further details. The Equipment Group Code for a chassis is decimal 27 (binary 11011).

Table B: Data Values for the Equipment Group Code

Value	Description	Value	Description
0	Other	16	Reserved
1	Reserved	17	Tractor (Power Only)
2	Reserved	18	Truck (Power and Cargo Bed)
3	Reserved	19	Railcar
4	Reserved	20	Dolly
5	Locomotive	21	Trailer
6	End-of-Train Device	22	Reserved
7	Reserved	23	Reserved
8	Reserved	24	Reserved
9	Reserved	25	Reserved
10	Intermodal Container	26	Reserved
11	Reserved	27	Chassis
12	Reserved	28	Reserved
13	Reserved	29	Reserved
14	Non-Revenue	30	Reserved
15	Reserved	31	Reserved

1.2 Tag Type: The Tag Type indicates the configuration, capability, and memory size of the Tag. At the present time there is only one Tag Type defined, as indicated in Table C.

Table C: Data Values for the Tag Type Field

Decimal Value	Description
1	Reserved
2	Tag described by the AAR Standard (Current Version), and the ISO Draft International Standard DIS 10374, and the ATA Proposed Standard
3	Reserved
4	Reserved

To code the Tag Type value into the Tag, the decimal value is reduced by one and converted to its base 2 equivalent.

1.3 Owner's Code: The Owner's Code is composed of four (4) letters and can be represented as C1; C2; C3; C4. To code this information in the Tag, the possible letters represented by C1 will be assigned to the following decimal values: A=0, B=1, C=2, ...Z=25. The letters C2, C3 and C4 will be assigned the following values: Blank =0, A=1, B=2, ...Z=26. This code assignment allows for an Owner's Code of less than four characters, with the actual characters left justified, and the remainder of the field padded with blanks.

Conversion from alpha to numeric would involve the following:

1. Determine the numeric equivalent of characters C1 through C4. This will result in four numeric values; N1 through N4.

2. Convert N1 through N4 into one numeric value by using the formula:

$$\text{Value} = (N1 \times 27^3) + (N2 \times 27^2) + (N3 \times 27) + N4$$

The base 2 equivalent of the decimal number "Value" is stored in the Tag Owner's Code field.

Conversion from a base 2 tag format back to the four letters would involve the following, where "Value" is the decimal equivalent of the base 2 value in the Owner's Code field.

1. $N1 = \text{Value}/27^3$ (integer - drop fractions)

2. $N2 = (\text{Value} - (N1 \times 27^3))/27^2$ (integer)

3. $N3 = (\text{Value} - ((N1 \times 27^3) + (N2 \times 27^2)))/27$ (integer)

4. $N4 = Value - ((N1x27^3) + (N2x27^2) + (N3x27))$

5. Use the letter-to-number assignments referred to above to convert N1 through N4 from a numeric value to its letter equivalent.

1.4 Identification Number: The Identification Number is encoded into the Tag by converting the decimal value from 0 to 999999 to a binary value (a conversion from base 10 to base 2).

1.5 Chassis Type Code: To encode the Chassis Type Code into the Tag, the decimal value from 0 to 15 must be converted to the equivalent base 2 value. Table D presents a description of each type detail code value.

Table D: Data Values for the Chassis Type Code

Value	Description
0	Extendible
1	Straight
2	Combo
3	Beam Slider
4	Rail Compatible Chassis, with integral rail wheels
5	Rail Compatible Chassis, without integral rail wheels
6	Fixed Length Gooseneck
7	Platform
8	Drop Frame
9	Tri-purpose
10-14	Reserved
15	Others/Not Used/Unknown

1.6 Tare Weight: This field indicates the chassis Tare Weight in hundreds of kilograms. To encode the chassis Tare Weight into the Tag, the decimal value from 15 to 77 kilograms must be reduced by decimal 14 then converted to its equivalent base 2 value. A binary value of 0 (zero) indicates a "does not apply" or "unknown" condition.

1.7 Height: The chassis Height is measured from the ground to the top of the rear bolster when the chassis is unladen. To encode the height into the Tag, the decimal value from 40 to 166 centimeters must be reduced by decimal 39 then converted to the equivalent base 2 value. A binary value of "0" (zero) indicates a "does not apply" or "unknown" condition.

1.8 Tandem Width Code: The Tandem Width Code field indicates the nominal width of the chassis tandem, defined as the extreme width spanned by the outside tires of an axle. (The Tandem Width is usually 2.5 to 2.6 meters, e.g., 96 to 102 inches.) To encode the Tandem Width Code into the Tag, use the following table:

Tandem Width	Tandem Width Code Value
Unknown	0
96" (2.5 meters) or less	1
More than 96" (2.5 meters), but not more than 102" (2.6 meters)	2
More than 102" (2.6 meters)	3

The decimal value from the table is converted to its base two equivalent for encoding into the tag.

1.9 Forward Extension: The Forward Extension is the distance from the center of the king-pin to the most forward protrusion on the Chassis. To encode the Forward Extension into the Tag, the decimal value from 30 to 154 centimeters must be reduced by decimal 28, divided by two, then converted to the equivalent base 2 value. A binary value of "0" (zero) indicates a "does not apply" or "unknown" condition.

1.10 Kingpin Setting: The Kingpin Setting is the distance, measured to the nearest even centimeter, from the center of the kingpin forward to the front of the chassis, but excluding any protrusions such as a gooseneck or electrical box. To encode the Kingpin Setting into the Tag, the decimal value from 30 to 154 centimeters must be reduced by decimal 28, divided by two, then converted to the equivalent base 2 value. A binary value of "0" (zero) indicates a "does not apply" or "unknown" condition.

1.11 Axle Spacing: This is the distance between the centers of the rear axles. To encode the tag, the value of 10 to 40 decimeters is reduced by 9 then converted to the equivalent base 2 value. A binary value of "0" (zero) indicates a "does not apply" or "unknown" condition.

1.12 Running Gear Location: This is the distance from the rear of the chassis to the point midway between the two axles. To encode the tag, the value of 13 to 43 decimeters is reduced by 12 then converted to the equivalent base 2 value. If the chassis is a sliding tandem, use the maximum value of 43 decimeters. For beam sliders, use the distance measurement for the Running Gear Location in its normal position. A binary value of "0" (zero) indicates a "does not apply" or "unknown" condition.

1.13 Number of Lengths: This field represents the number of different lengths in which the chassis can be configured. Enter the appropriate binary equivalent of 0 to 7 lengths. Use 7 for 7 or more lengths. A binary value of "0" (zero) indicates a "does not apply" or "unknown" condition.

1.14 Minimum Length: This field indicates the chassis minimum length. The Minimum Length is measured while the chassis is in its fully retracted state. If the chassis is a fixed length, then the Minimum Length simply equals the chassis length. The length field is equivalent to the overall (outside) length of the chassis, including forward protrusions but excluding dock bumpers. To encode the chassis Minimum Length into the Tag, the value from 0 to 2046 centimeters is first divided by two (2), then converted to its equivalent base 2 value. A binary value of "0" (zero) indicates a "does not apply" or "unknown" condition.

1.15 Maximum Length: The Maximum Length of the chassis may be encoded into the Maximum Length/Security field if the user chooses not to use security characters.

If the user does not wish to use security nor indicate the maximum length, then this field shall be filled with binary zeros ("0's").

If the user wishes to encode Maximum Length, this field shall be encoded as the maximum extendible chassis length, measured from the extreme front to the extreme rear of the chassis. The subsequent steps shall be used to encode the decimal value from 0 to 2046 centimeters into the Tag.

1. Convert the maximum length decimal value ($D_3D_2D_1D_0$) to a base 37 number (L_1L_0) as follows (note that only even centimeters are used):

   $E_3E_2E_1E_0 = D_3D_2D_1D_0/2$ (Truncate Remainder to an Integer Result)

   $C = E_3E_2E_1E_0/37$ (Truncate Remainder to an Integer Result)

   $L_1 = C + 1$

   $L_0 = E_3E_2E_1E_0 - (CX37)$ (Truncate Remainder to an Integer Result)

2. Use the following table to convert L_1 and then L_0 into alpha-numeric characters (A_1 and A_0).

L_1 or L_0 Value	A_1 or A_0 Character	L_1 or L_0 Value	A_1 or A_0 Character
0	/	19	I
1	0	20	J
2	1	21	K
3	2	22	L
4	3	23	M
5	4	24	N
6	5	25	O
7	6	26	P
8	7	27	Q
9	8	28	R
10	9	29	S
11	A	30	T
12	B	31	U
13	C	32	V
14	D	33	W
15	E	34	X
16	F	35	Y
17	G	36	Z
18	H		

3. Using the Six-Bit ASCII table presented in Appendix G, find the decimal values associated with the A_1 character and then the A_0 character. Finally, these decimal values must then be converted to corresponding base 2 values.

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APPENDIX E

A Description of the Tag Data
Format for the Intermodal Container

Subject to revision by the Ocean industry.